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SEQUENCE LISTING

<110> Beth Israel Deaconess Medical Center, Inc.
        Inouye, Roger T.
        Torres-Viera, Carlos
        Moellering, Robert
        Gold, Howard
        Eliopoulos, George M.

<120> METHODS AND COMPOSITIONS FOR RESTORING ANTIBIOTIC
        SUSCEPTIBILITY IN GLYCOPEPTIDE-RESISTANT ENTEROCOCCUS

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<213> Enterococcus faecium

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          <213> Enterococcus faecium

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          <210> 6
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          <213> Enterococcus faecium

          <400> 6
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          <210> 7
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          <212> DNA
          <213> Enterococcus faecium

          <400> 7
cgagccggaa aaaggctc                                                     18

          <210> 8
          <211> 20
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          <213> Enterococcus faecium

          <400> 8
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          <210> 9
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        <210> 11
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        <213> Enterococcus casseliflavus

        <400> 11
cgagccggaa aaaggctc                                                     18

        <210> 12
        <211> 20
        <212> DNA
        <213> Enterococcus casseliflavus

        <400> 12
ggctgcgata ttcaaagctc                                                   20

        <210> 13
        <211> 20
        <212> DNA
        <213> Enterococcus faecium

        <400> 13
ggctgcgata ttcaaagctc                                                   20

        <210> 14
        <211> 30
        <212> DNA
        <213> Enterococcus faecium

        <400> 14
cuacuacuac uacgaattca agaacactgg                                        30

        <210> 15
        <211> 36
        <212> DNA
        <213> Enterococcus faecium

        <400> 15
caucaucauc auccaaccct ttctgtgaaa ggcacc                                 36

        <210> 16
        <211> 38
        <212> DNA
        <213> Enterococcus faecium

        <400> 16
cuacuacuac uactcgaggc ttatcacccc tttaacgc                               38

        <210> 17
        <211> 32
```

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<212> DNA
<213> Enterococcus faecium

<400> 17
caucaucauc auggagacag gagcatgaat ag   32

       <210> 18
       <211> 696
       <212> DNA
       <213> Enterococcus faecium

       <400> 18
atgagcgata aaatacttat tgtggatgat gaacatgaaa ttgccgattt ggttgaatta   60
tacttaaaaa acgagaatta tacggttttc aaatactata ccgccaaaga agcattggaa   120
tgtatagaca agtctgagat tgaccttgcc atattggaca tcatgcttcc cggcacaagc   180
ggccttacta tctgtcaaaa aataagggac aagcacacct atccgattat catgctgacc   240
gggaaagata cagaggtaga taaaattaca gggttaacaa tcggcgcgga tgattatata   300
acgaagccct ttcgcccact ggagttaatt gctcgggtaa aggcccagtt gcgccgatac   360
aaaaaattca gtggagtaaa ggagcagaac gaaaatgtta tcgtccactc cggccttgtc   420
attaatgtta acacccatga gtgttatctg aacgagaagc agttatccct tactcccacc   480
gagtttttcaa tactgcgaat cctctgtgaa aacaagggga atgtggttag ctccgagctg   540
ctatttcatg agatatgggg cgacgaatat ttcagcaaga gcaacaacac catcaccgtg   600
catatccggc atttgcgcga aaaaatgaac gacaccattg ataatccgaa atatataaaa   660
acggtatggg gggttggtta taaaattgaa aaataa   696

       <210> 19
       <211> 1155
       <212> DNA
       <213> Enterococcus faecium

       <400> 19
ttggttataa aattgaaaaa taaaaaaaac gactattcca aactagaacg aaaactttac   60
atgtatatcg ttgcaattgt tgtggtagca attgtattcg tgttgtatat tcgttcaatg   120
atccgaggga aacttgggga ttggatctta agtattttgg aaaacaaata tgacttaaat   180
cacctggacg cgatgaaatt atatcaatat tccatacgga acaatataga tatctttatt   240
tatgtggcga ttgtcattag tattcttatt ctatgtcgcg tcatgctttc aaaattcgca   300
aaatactttg acgagataaa taccggcatt gatgtactta ttcagaacga agataaacaa   360
attgagcttt ctgcggaaat ggatgttatg gaacaaaagc tcaacacatt aaaacggact   420
ctggaaaagc gagagcagga tgcaaagctg gccgaacaaa gaaaaaatga cgttgttatg   480
tacttggcgc acgatattaa aacgccccctt acatccatta tcggttattt gagcctgctt   540
gacgaggctc cagacatgcc ggtagatcaa aaggcaaagt atgtgcatat cacgttggac   600
aaagcgtatc gactcgaaca gctaatcgac gagtttttttg agattacacg gtataaccta   660
caaacgataa cgctaacaaa aacgcacata gacctatact atatgctggt gcagatgacc   720
gatgaatttt atcctcagct ttccgcacat ggaaaacagg cggttattca cgcccccgag   780
gatctgaccg tgtccggcga ccctgataaa ctcgcgagag tctttaacaa cattttgaaa   840
aacgccgctg catacagtga ggataacagc atcattgaca ttaccgcggg cctctccggg   900
gatgtggtgt caatcgaatt caagaacact ggaagcatcc caaaagataa gctagctgcc   960
atatttgaaa agttctatag gctggacaat gctcgttctt ccgatacggg tggcgcggga   1020
cttggattgg cgattgcaaa agaaattatt gttcagcatg gaggcagat ttacgcggaa   1080
agcaatgata actatacgac gtttagggta gagcttccag cgatgccaga cttggttgat   1140
aaaaggaggt cctaa   1155

       <210> 20
       <211> 969
       <212> DNA
       <213> Enterococcus faecium

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```
     <400> 20
atgaataaca tcggcattac tgtttatgga tgtgagcagg atgaggcaga tgcattccat        60
gctctttcgc ctcgctttgg cgttatggca acgataatta acgccaacgt gtcggaatcc       120
aacgccaaat ccgcgccttt caatcaatgt atcagtgtgg gacataaatc agagatttcc       180
gcctctattc ttcttgcgct gaagagagcc ggtgtgaaat atatttctac ccgaagcatc       240
ggctgcaatc atatagatac aactgctgct aagagaatgg gcatcactgt cgacaatgtg       300
gcgtactcgc cggatagcgt tgccgattat actatgatgc taattcttat ggcagtacgc       360
aacgtaaaat cgattgtgcg ctctgtggaa aaacatgatt tcaggttgga cagcgaccgt       420
ggcaaggtac tcagcgacat gacagttggt gtggtgggaa cgggccagat aggcaaagcg       480
gttattgagc ggctgcgagg atttggatgt aaagtgttgg cttatagtcg cagccgaagt       540
atagaggtaa actatgtacc gtttgatgag ttgctgcaaa atagcgatat cgttacgctt       600
catgtgccgc tcaatacgga tacgcactat attatcagcc acgaacaaat acagagaatg       660
aagcaaggag catttcttat caatactggg cgcggtccac ttgtagatac ctatgagttg       720
gttaaagcat tagaaaacgg gaaactgggc ggtgccgcat tggatgtatt ggaaggagag       780
gaagagtttt tctactctga ttgcacccaa aaaccaattg ataatcaatt tttacttaaa       840
cttcaaagaa tgcctaacgt gataatcaca ccgcatacgg cctattatac cgagcaagcg       900
ttgcgtgata ccgttgaaaa aaccattaaa aactgtttgg attttgaaag gagacaggag       960
catgaatag                                                                969


     <210> 21
     <211> 1032
     <212> DNA
     <213> Enterococcus faecium

     <400> 21
atgaatagaa taaaagttgc aatactgttt gggggttgct cagaggagca tgacgtatcg        60
gtaaaatctg caatagagat agccgctaac attaataaag aaaaatacga gccgttatac       120
attggaatta cgaaatctgg tgtatggaaa atgtgcgaaa aaccttgcgc ggaatgggaa       180
aacgacaatt gctattcagc tgtactctcg ccggataaaa aaatgcacgg attacttgtt       240
aaaaagaacc atgaatatga aatcaaccat gttgatgtag cattttcagc tttgcatggc       300
aagtcaggtg aagatggatc catacaaggt ctgtttgaat tgtccggtat cccttttgta       360
ggctgcgata ttcaaagctc agcaatttgt atggacaaat cgttgacata catcgttgcg       420
aaaaatgctg ggatagctac tcccgccttt tgggttatta ataaagatga taggccggtg       480
gcagctacgt ttacctatcc tgttttttgtt aagccggcgc gttcaggctc atccttcggt       540
gtgaaaaaag tcaatagcgc ggacgaattg gactacgcaa ttgaatcggc aagacaatat       600
gacagcaaaa tcttaattga gcaggctgtt tcgggctgtg aggtcggttg tgcggtattg       660
ggaaacagtg ccgcgttagt tgttggcgag gtggaccaaa tcaggctgca gtacggaatc       720
tttcgtattc atcaggaagt cgagccggaa aaaggctctg aaaacgcagt tataaccgtt       780
cccgcagacc tttcagcaga ggagcgagga cggatacagg aaacggcaaa aaaaatatat       840
aaagcgctcg gctgtagagg tctagcccgt gtggatatgt ttttacaaga taacggccgc       900
attgtactga cgaagtcaa tactctgccc ggtttcacgt catacagtcg ttatccccgt       960
atgatggccg ctgcaggtat tgcacttccc gaactgattg accgcttgat cgtattagcg      1020
ttaaaggggt ga                                                           1032


     <210> 22
     <211> 609
     <212> DNA
     <213> Enterococcus faecium

     <400> 22
atggaaatag gatttacttt tttagatgaa atagtacacg gtgttcgttg ggacgctaaa        60
tatgccactt gggataattt caccggaaaa ccggttgacg gttatgaagt aaatcgcatt       120
gtagggacat acgagttggc tgaatcgctt ttgaaggcaa aagaactggc tgctacccaa       180
gggtacggat tgcttctatg ggacggttac cgtcctaagc gtgctgtaaa ctgtttttatg       240
caatgggctg cacagccgga aaataacctg acaaaggaaa gttattatcc caatattgac       300
cgaactgaga tgatttcaaa aggatacgtg gcttcaaaat caagccatag ccgcggcagt       360
gccattgatc ttacgcttta tcgattagac acgggtgagc ttgtaccaat ggggagccga       420
```

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```
tttgatttta tggatgaacg ctctcatcat gcggcaaatg gaatatcatg caatgaagcg      480
caaaatcgca gacgtttgcg ctccatcatg gaaaacagtg ggtttgaagc atatagcctc      540
gaatggtggc actatgtatt aagagacgaa ccatacccca atagctattt tgatttcccc      600
gttaaataa                                                              609
```

         <210> 23
         <211> 912
         <212> DNA
         <213> Enterococcus faecium

         <400> 23
```
atgaagaagt tgtttttttt attgttattg ttattcttaa tatacttagg ttatgactac       60
gttaatgaag cactgttttc tcaggaaaaa gtcgaatttc aaaattatga tcaaaatccc      120
aaagaacatt tagaaaatag tgggacttct gaaaataccc aagagaaaac aattacagaa      180
gaacaggttt atcaaggaaa tctgctatta atcaatagta aatatcctgt tcgccaagaa      240
agtgtgaagt cagatatcgt gaatttatct aaacatgacg aattaataaa tggatacggg      300
ttgcttgata gtaatattta tatgtcaaaa gaaatagcac aaaaattttc agagatggtc      360
aatgatgctg taaagggtgg cgttagtcat tttattatta atagtggcta tcgagacttt      420
gatgagcaaa gtgtgcttta ccaagaaatg ggggctgagt atgccttacc agcaggttat      480
agtgagcata attcaggttt atcactagat gtaggatcaa gcttgacgaa aatggaacga      540
gcccctgaag gaaagtggat agaagaaaat gcttggaaat acgggttcat tttacgttat      600
ccagaggaca aaacagagtt aacaggaatt caatatgaac catggcatat tcgctatgtt      660
ggtttaccac atagtgcgat tatgaaagaa aagaatttcg ttctcgagga atatatggat      720
tacctaaaag aagaaaaaac catttctgtt agtgtaaatg gggaaaaata tgagatcttt      780
tattatcctg ttactaaaaa taccaccatt catgtgccga ctaatcttcg ttatgagata      840
tcaggaaaca atatagacgg tgtaattgtg acagtgtttc ccggatcaac acatactaat      900
tcaaggaggt aa                                                          912
```

         <210> 24
         <211> 486
         <212> DNA
         <213> Enterococcus faecium

         <400> 24
```
ttgggaaaaa tattatctag aggattgcta gctttatatt tagtgacact aatctggtta       60
gtgttattca aattacaata caatatttta tcagtattta attatcatca aagaagtctt      120
aacttgactc catttactgc tactgggaat ttcagagaga tgatagataa tgttataatc      180
tttattccat ttggcttgct tttgaatgtc aattttaaag aaatcggatt tttacctaag      240
tttgcttttg tactggtttt aagtcttact tttgaaataa ttcaatttat cttcgctatt      300
ggagcgacag acataacaga tgtaattaca aatactgttg gaggctttct tggactgaaa      360
ttatatggtt taagcaataa gcatatgaat caaaaaaaat tagacagagt tattattttt      420
gtaggtatac ttttgctcgt attattgctc gtttaccgta cccatttaag aataaattac      480
gtgtaa                                                                 486
```

         <210> 25
         <211> 19
         <212> DNA
         <213> Enterococcus faecium

         <400> 25
```
cgaataccgc aagcgacag                                                    19
```

         <210> 26
         <211> 663
         <212> DNA
         <213> Enterococcus faecium

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```
        <400> 26
atgtcgatac gaattctact tgtcgaggat gatgatcata tctgcaatac agtaagggcg       60
tttttggctg aagcaagata tgaggtggat gcctgcacag atggaaacga agcacacacc      120
aagttctatg aaaacaccta tcaactggtt attcttgata ttatgctgcc cggtatgaat      180
gggcatgaac ttctacgtga atttcgggcg caaaatgata cccccattct gatgatgaca      240
gccctgtcgg atgacgaaaa ccaaatccgg gcgtttgatg cagaggcaga cgactatgta      300
acaaagccat tcaagatgcg gattttacta aagcgggtgg aagccctgtt acggcgcagc      360
ggtgcgctgg caaaggaatt tcgtgtgggc aggctgacac ttctgccgga ggattttagg      420
gtactttgtg acggtacgga gctgcccctg acacgaaaag aatttgaaat ccttttgctg      480
ctggtgcaga acaaaggcag aaccttaacc catgaaatca ttttgtcccg catatgggga      540
tatgactttg acggtgatgg cagcacagtc cacactcata tcaaaaatct gcgggcgaag      600
ctgccggaaa atatcatcaa aaccatccgc ggtgtaggtt accgattgga ggaatcatta      660
taa                                                                    663

        <210> 27
        <211> 1344
        <212> DNA
        <213> Enterococcus faecium

        <400> 27
atggaaagaa aagggatttt cattaaggtt ttttcctata cgatcattgt cctgttactg       60
cttgtcggtg taacggcaac actgtttgca cagcaatttg tgtcttattt cagagcgatg      120
gaagcacagc aaacagtaaa atcctatcag ccattggtgg aactgattca gaatagcgat      180
aggcttgata tgcaagaggt ggcagggctg tttcactaca ataaccaatc ctttgagttt      240
tatattgaag ataaagaggg aagcgtactc tatgccacac cgaatgccga tacatcaaat      300
agtgttaggc ccgactttct ttatgtggta catagagatg ataatatttc gattgttgct      360
caaagcaagg caggtgtggg attgctttat caagggctga caattcgggg aattgttatg      420
attgcgataa tggttgtatt cagcctttta tgcgcgtata tctttgcgcg gcaaatgaca      480
acgccgatca aagccttagc ggacagtgcg aataaaatgg caaacctgaa agaagtaccg      540
ccgccgctgg agcgaaagga tgagcttggc gcactggctc acgacatgca ttccatgtat      600
atcaggctga agaaaccat cgcaaggctg gaggatgaaa tcgcaaggga acatgagttg      660
gaggaaacac agcgatattt ctttgcggca gcctctcatg agttaaaaac gcccatcgcg      720
gctgtaagcg ttctgttgga gggaatgctt gaaaatatcg gtgactacaa agaccattct      780
aagtatctgc gcgaatgcat caaaatgatg gacaggcagg gcaaaaccat ttccgaaata      840
ctggagcttg tcagcctgaa cgatgggaga atcgtaccca tagccgaacc gctggacata      900
gggcgcacgg ttgccgagct gctacccgat tttcaaacct tggcagaggc aaacaaccag      960
cggttcgtca cagatattcc agccggacaa attgtcctgt ccgatccgaa gctgatccaa     1020
aaggcgctat ccaatgtcat attgaatgcg gttcagaaca cgccccaggg aggtgaggta     1080
cggatatgga gtgagcctgg ggctgaaaaa taccgtcttt ccgttttgaa catgggcgtt     1140
cacattgatg atactgcact ttcaaagctg ttcatcccat tctatcgcat tgatcaggcg     1200
cgaagcagaa aaagtgggcg aagcggtttg gggcttgcca tcgtacaaaa aacgctggat     1260
gccatgagcc tccaatatgc gctggaaaac acctcagatg gcgtttttgtt ctggctggat     1320
ttaccgccca catcaacact ataa                                             1344

        <210> 28
        <211> 807
        <212> DNA
        <213> Enterococcus faecium

        <400> 28
atggaaaaaa gcaactatca ttccaatgtg aatcatcaca acggcatat gaaacaatct        60
ggggaaaaac gggcttttct atgggcgttc attatctcgt tcacagtctg cacgctgttt      120
ttggggtgga gattggtttc cgtattggag gcaacacagc taccgcccat ccctgcaact      180
catacaggca gcgggactgg tgtagcggag aatccagagg aaaacactct tgccaccgcc      240
aaagaacagg gagatgaaca ggaatggagc ctgattttag tgaacaggca gaaccccatc      300
cccgcccagt acgatgtgga acttgagcag ctgtcaaatg gtgagcggat agacattcgg      360
atttctccct acctccagga tttgtttgat gccgcaagag ctgatggagt ttacccgatt      420
```

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```
gtcgcatccg gataccggac aacagaaaaa cagcaagaaa tcatggatga aaaagtcgcc      480
gaatacaagg cgaaaggcta cacctctgca caggctaaag cggaagcaga aacttgggtg      540
gccgtgccgg gaacaagcga gcatcagctt ggtcttgctg tggatatcaa tgcggatgga      600
attcattcaa ccggcaacga ggtttacaga tggctggatg aaaacagcta tcgctttggt      660
tttattcgcc gctacccgcc agacaagaca gagataaccg gtgtgagcaa cgagccgtgg      720
cattaccgat atgtcggcat cgaagctgcc acaaagatat accaccaagg gctttgcctt      780
gaggaatatt taaacacaga aaaatga                                          807
```

        <210> 29
        <211> 972
        <212> DNA
        <213> Enterococcus faecium

        <400> 29
```
atgagaaaaa gtatgggcat tactgttttt ggatgcgagc aggatgaggc aaatgctttc       60
cgcaccttat caccagattt tcatattatc cctacgctga tcagtgatgc gatatcggca      120
gacaacgcaa aattggccgc tggcaatcaa tgcattagcg taggccataa gtccgaggtt      180
tccgaggcga caattcttgc gctgagaaag gtcggggtaa aatacatttc tacccgcagc      240
atcggctgca atcacattga tacgactgcc gccgagagaa tggggatctc ggttggcaca      300
gttgcgtatt cgccggacag cgttgcggat tatgctttga tgctgatgct gatggccata      360
cggggtgcaa agtccaccat acacgccgtg cgcaacaaa atttcagact ggattgtgtc      420
cgggggaaag agctgcggga tatgactgtg ggagttattg gaaccggcca tatagggcaa      480
gcggtcgtca aaaggctgcg gggatttgga tgccgtgtgc tagcctatga taacagccga      540
aaaattgagg cagattatgt ccagcttgat gagcttctaa aaaacagcga tattgttacg      600
ctccatgtgc cgctttgtgc ggatacccgc catctgatcg gccagagcga aatcggagag      660
atgaagcaag gcgcattttt aatcaacact gggcgcgggg cgcttgtcga taccgggtcg      720
ctggtggagg cactgggaag cggaaagctg ggcggtgcgg cactggatgt gttggagggc      780
gaggatcagt ttgtttatac cgactgctcg cagaaagtgc ttgaccatcc cttttttgtcg      840
cagctcctaa ggatgccaaa tgtgatcatc acaccccata cggcgtacta caccgagcgt      900
gtgctgcgag ataccacaga aaaaacaatc aggaattgtc ttaactttga aaggagttta      960
cagcatgaat aa                                                          972
```

        <210> 30
        <211> 1029
        <212> DNA
        <213> Enterococcus faecium

        <400> 30
```
atgaataaaa taaaagtcgc aattatcttc ggcggttgct cggaggaaca tgatgtgtcg       60
gtaaaatccg caatagaaat tgctgcgaac attaatactg aaaaattcga tccgcactac      120
atcggaatta caaaaaacgg cgtatggaag ctatgcaaga agccatgtac ggaatgggaa      180
gccgatagtc tccccgccat attctccccg gataggaaaa cgcatggtct gcttgtcatg      240
aaagaaagag aatacgaaac tcggcgtatt gacgtggctt ccccggtttt gcatggcaaa      300
tgcgggagg atggtgcgat acagggtctg tttgaattgt ctggtatccc ctatgtaggc      360
tgcgatattc aaagctccgc agcttgcatg gacaaatcac tggcctacat tcttacaaaa      420
aatgcgggca tcgccgtccc cgaatttcaa atgattgaaa aaggtgacaa accggaggcg      480
aggacgctta cctaccctgt ctttgtgaag ccggcacggt caggttcgtc ctttggcgta      540
accaaagtaa acagtacgga gaactaaac gctgcgatag aagcagcagg acaatatgat      600
ggaaaaatct taattgagca agcgatttcg ggctgtgagg tcggctgcgc ggtcatggga      660
aacgaggatg atttgattgt cggcgaagtg gatcaaatcc ggttgagcca cggtatcttc      720
cgcatccatc aggaaaacga gccggaaaaa ggctcagaga atgcgatgat tatcgttcca      780
gcagacattc cggtcgagga acgaaatcgg gtgcaagaaa cggcaaagaa agtatatcgg      840
gtgcttggat gcagagggct tgctcgtgtt gatctttttt tgcaggagga tggcggcatc      900
gttctaaacg aggtcaatac cctgcccggt tttacatcgt acagccgcta tccacgcatg      960
gcggctgccg caggaatcac gcttcccgca ctaattgaca gcctgattac attggcgata     1020
gagaggtga                                                            1029
```

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```
<210> 31
<211> 609
<212> DNA
<213> Enterococcus faecium

<400> 31
atggaaaatg gttttttgtt tttagatgaa atgttgcatg gtgttcgttg ggatgccaag      60
tacgctacat gggataactt cacgggaaaa ccagtggatg ggtatgaggt gaatcgcatc     120
atcggcacaa aggccgtggc gcttgctctg cgcgaagcac aaatccatgc ggcacgcctt     180
ggctacggct tgcttttatg ggatggatat cggccaaaat ctgcggtgga ctgtttcctg     240
cgttgggcgg cgcagccgga ggacaacctc acaaaagaaa aatattaccc caatattgag     300
cgagccgagt tgattacaaa gggctatgtg gcctcacaat ccagccatag ccgtggaagc     360
acaattgatc ttacgctcta ccacttggat acaggggaac ttgtttcaat gggaagcaac     420
ttcgatttta tggacgaacg gtcgcaccat acagcaaaag ggatagggaa tgcagaggca     480
caaaatcgaa gatgcttgcg taaaatcatg gaaagcagcg gatttcagtc ctatcgcttt     540
gaatggtggc actataagtt gattgatgag ccatacccg atacctattt taatttgct      600
gtttcataa                                                             609


<210> 32
<211> 828
<212> DNA
<213> Enterococcus faecium

<400> 32
atgaacagaa aaagattgac acagcgcttc ccgttcctgc ttccaatgag acaagcgcag.     60
agaaaaatat gcttttatgc gggaatgaga tttgacggct gttgctatgc acagacgata     120
ggagaaaaaa cgcttcccta tttgctcttt gaaacggatt gtgcgttata caaccacaat     180
accggatttg acatgatata ccaagaaaac aaggtgttca acttaaagct ggcggcaaag     240
accttaaacg gcctattgat aaaaccgggg gaaacctttt ctttctggcg gctggtacgc     300
catgcggaca agatacccc ctataaagac ggccttacgg tggccaatgg taagctcacc     360
accatgtcgg gcggcggtat gtgccagatg agcaatttac tattttgggt gttcctgcat     420
acgccattga caattatcca gcgcagcggt cacgtagtaa aggagtttcc agagccaaac     480
agtgacgaga tcaaaggggt ggatgcaacc atctcagagg ctggattga tttaaaagtg      540
cgaaacgata ccgactgcac ctaccaaata tgggtgaccc tagatgatga gaaaatcatc     600
ggtcaggtgt cgccgacaa acagcctcaa gcattataca aaattgcaaa cggcagtatt     660
cagtatgtcc gtgaaagtgg cgggatttat gaatatgcca aggttgaacg gatgcaagtt     720
gccttaggta ccggggaaat aatagattgc aagctgcttt atacaaacaa atgcaaaatc     780
tgctatcccc tcccggaaag tgtggatatt caggaggcga accaatga                   828


<210> 33
<211> 1053
<212> DNA
<213> Enterococcus casseliflavus

<400> 33
atgaaaaaaa tcgccattat ttttggaggc aattcaccgg aatacaccgt ttctttagct      60
tcagcaacta gcgcaatcga agcactccaa tcatctccct atgactacga cctctctttg     120
atcgggatcg ccccagatgc tatggattgg tacttgtata caggagaact ggaaaacatc     180
cgacaagaca cgtggttgtt ggatacgaaa cataaacaga aaatacagcc gctattcgaa     240
ggaaacggct tttggctaag tgaagagcag caaacgttgg tacctgatgt tttatttccc     300
attatgcatg gcaaatacgg ggaagatggc agtatccaag gattgtttga attgatgaag     360
ctgccttatg taggctgcgg ggtggcaggt tctgccttat gtatgaacaa atggctgctg     420
catcaagctg cagcagccat tggcgtacaa agtgctccta cgattctctt gacaaatcaa     480
gccaaccagc aagaacaaat cgaagctttt atccagaccc atggcttccc agtttttctt     540
aagcctaatg aagcgggctc ctcaaaaggg atcactaaag tcacctgcgt tgaagaaatc     600
gcttctgcct aaaagaagc ctttacttat tgttccgcag tgctcctaca aaaaaatatt     660
gccggtgttg agatcggttg cggtattttg ggcaacgact ctttgactgt cggtgcttgt     720
```

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gacgccattt cattagtaga cggctttttc gattttgaag aaaagtacca gctgatcagc       780
gccaaaatca ccgtccctgc gccattgcct gaaacgattg aaaccaaggt caaagaacaa       840
gctcagctgc tctatcgtag tcttggtctt aaaggtcttg ctcgcatcga cttttttgtc       900
acggagcgag gagaactata cttgaatgaa atcaatacta tgccgggctt tacgagtcac       960
tcccgctatc ctgccatgat ggcagcggtc ggcttatcct atcaagaact actacaaaaa      1020
ctgcttgtct tagcaaagga ggaagtcaaa tga                                   1053
```

```
        <210> 34
        <211> 699
        <212> DNA
        <213> Enterococcus faecium


        <400> 34
atgaatgaaa aaatcttagt ggttgatgat gaaaaagaat tggccgactt agttgaagta        60
tatctgaaaa acgatggata taccgtttat aaattttata atggcaagga tgcactaaag       120
tgtattgaat ccgtggaact ggatttagcc atattggata tcatgcttcc ggatgtagac       180
gggtttcaga tctgccagaa atccgggaa aagtttact tccctgttat catgctgaca          240
gcaaaagtgg aggacgggga taaaatcatg ggactgtccg tggcggatga ttatattaca        300
aagccgttta cccgctgga agtggttgcg agagtaaagg cgcagctgcg gcagtacatg         360
cggtacaagc agcccagctt aaagcaggag gctgaatgca cagaatacga tatcagaggg        420
atgacaatca gcaagagcag ccataagtgt atcctgtttg gaaaggagat tcagctgacg        480
ccaacggagt tttcgattct ttggtatctg tgcgagcgtc agggtacggt tgtttctacg        540
gaggaattat ttgaggcagt atggggtgaa cggttttttg acagcaataa tactgtgatg        600
gcgcatatcg ggcggctccg ggagaaaatg aaggaaccgt caagaaatcc gaaatttata        660
aaaactgtgt ggggagtggg atataccatt gaaaaatag                              699
```

```
        <210> 35
        <211> 1146
        <212> DNA
        <213> Enterococcus faecium


        <400> 35
ttgaaaaata gaaataaaac cagtcatgaa gatgactatt tacttttaa aaacagattg          60
tccgttaaaa tactgcttat gatggtatat tccattctga ttattgcggg tgtttatctg        120
tttatcttaa aagataattt tgcaaatgtc gtggtagcca tttttagacag ctttatctat       180
catgatcggg atgaggcggt ggctgtttat ctgagaacct ttaaggcgtc tgagatatgg        240
cttttcctga tagcggttat gggcgtgttt tttatgatct tccgccgtta tctggacagt        300
atttcaaaat attttaagga gatcaaccgg gggatcgata ctttggtgaa tgaggatgcc        360
aacgatattg ggctgcctcc ggagttggct tcgaccgaaa gaaaaatcaa ttccatacgg        420
cataccctga cgaaacggaa aacggacgct gagcttgcag agcaaaggaa aaacgatctt        480
gtcatgtatc tggcccatga cctgaagacc ccgcttccat cggtcatagg atatttgaac        540
ctgttaaggg atgagaatca gatttccgag gaacttaggg aaaaatattt gtccatatca        600
ttggataagg ctgagcgtct ggaagaactg attaatgagt tttttgaaat tacgaggttt        660
aatctttcaa acatcacgct tgtgtacagc aaaatcaatc tgacgatgat gctggaacag        720
ctggggtatg agtttaagcc gatgctggcc gggaaaaatc tgaaatgtga atttgatgtt        780
cagccagaca tgatgctgtc ctgcgatgcc aacaagctgc agcgggtctt cgataatgtg        840
ctgagaaatg ccgtcagcta ctgctatgag aataccacca ttcgggtgaa agccaggcag        900
accgaagacc atgtactcat caaaatcata aacgaagggg atacgattcc tggggagaga        960
ttggaaagaa tctttgagca gtttttaccgc ctggatgtat ctcgaagctc aagtaccggc      1020
ggggccggtc tggggcttgc cattgcaaaa gagattgtgg aactgcacca tggacagatc       1080
actgcccaca gcgaaaatgg tatcaccagt tttgaggtta cattgcccgt cgtaggaaaa       1140
tcgtaa                                                                 1146
```

```
        <210> 36
        <211> 1071
        <212> DNA
        <213> Enterococcus faecium
```

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```
<400> 36
atgatggaat atcaaaacaa taatggaaac tatgacaaaa ggaatcgtag aaaagccaaa     60
aaaagaaaat tgcttttta caggcctgca tgtgtcacac tttgtttgct cattgtttct    120
gtaatctttg gagttgtgca ttttttaggg gagagtaaag atcccggcct tttatccaaa    180
gaaaacacaa aaacagacaa gaactattcg tggcttaccg acgatcagaa tgaggcagta    240
ccctcagttc cagagccagc catatccgac caggctaaca aaatttcggt aaatatcaca    300
gcggcaaacg ccattgtaat gaataaagac acaaatgagg tattgtacca gaaaaaaagc    360
acagccaaaa ttgcgccggc cagcactgct aagatgatta tggctttgac agcacttgac    420
tattgttccc cggaggatga aatgaaagta ggtgcggaga ttggaatgat tcaaagcgat    480
tcgtcaaccg catggcttat gaagggtgat acactgactg tcagacagct cctgattgcc    540
cttatgcttc cgtccggcaa tgatgcagcc tatacccttg cagtcaatac cggaaaggct    600
attgcaggtg ataacagcct gaccagtcag caagcgattg aagtattcat ggataaggta    660
aatgaaaaag ccgtggccct tggcgccaca aactcgaaat ttgtagctcc ggatggatat    720
gatgccgaag ggcagtatac tacagcttat gaccttgcta tcattgcaaa agcatgtttg    780
gacaatccta tcatttcgga gattgtagcg agttattcat cctatgaaaa atggtcaaac    840
ggaagagagg tcacttacaa caattccaat gagcttctcg atccgaacag tccctattac    900
cgtccggagg ttatcggttt gaaaacagga accagcagtc ttggcggcgc atgtattgtt    960
tctgcagcgg tgatggacgg agaaacctat atctgtgtag ttatgggttc tacaaaggaa   1020
agcaggtttc aggacagcgt tgatatttta gataaaatca aagcccagta a            1071


        <210> 37
        <211> 969
        <212> DNA
        <213> Enterococcus faecium

        <400> 37
atggagaaaa taatagacat aactgttttt ggctgcgagc cagacgaaat ggaggttttt     60
caaaagattt cttatgagct tggtgttaca gccacactca taaagattc tatatcagaa    120
agcaatgctg gattagctaa tggatgccgg tgtgtaagcg taagccataa agcggagcta    180
tcagaaccga ttcttcttgc gctaaaaaat gcaggggtaa atatatcag tacccggagc    240
attggtttta accatattga tatacaggcg gctgggttac tgggtatggt tgttggcaca    300
gtagaatact cgccgggaag tgtggccgat tataccgtca tgctgatgct tatgctgatg    360
cgtggcacaa agtcgattct gcgtgaaacc cagaggcaga attattgcct gaatgacctg    420
cgcggaaaag aactgcggga tatgaccgtg ggtgtgttag gaactgggcg aatcggacag    480
gcagtcatgg agcgcctgga gggattcggt tgtaaggtat tggcgtatga ccgaaatcaa    540
aaagcaggag cagactatgt ttcgtttcat gaactgctga aaaaaagtga cattgttaca    600
ctgcatatcc cgttggcgga ggatacccgc catatgattg gctatgaaga gctggaaatg    660
atgaaggaag aggcgcttct gatcaataca gggcggggcg ctttagtgga taccgcagca    720
ttggtagaag cattaaaagg acagaaaatc ggcggcgccc tggatgtttt ggaaggcgaa    780
gaaggtatct tttaccatga ctgcacccaa agaagaatag aacatccttt cctgtcggtc    840
ctgcagggaa tgccgaatgt cattgttacg ccgcacacag cctatcatac ggaacgggtg    900
ttggttgaca cggtcagaaa tactattaga aattgtttga attttgaaag gagtctggga    960
aatgtttag                                                           969


        <210> 38
        <211> 1032
        <212> DNA
        <213> Enterococcus faecium

        <400> 38
atgtttagaa ttaaagttgc agttctgttt gggggctgtt cagaggaaca taatgtttcg     60
ataaaatctg cgatggagat tgccgcaaac atagatacaa aaaaatatca gccttattat    120
attggaatca caaaatccgg cgtttggaaa atgtgtgaaa aaccttgttt ggagtgggaa    180
caatatgcgg gggatccggt tgtttttttcg ccggacagaa gtacgcatgg tctgctgata    240
caaaaagaca aagggtatga aatccagcct gtggatgtgg tgtttccgat gattcatggc    300
aagtttgggg aggatggctc catacaaggc ttgcttgaat tgtcaggcat tccgtatgtg    360
```

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```
ggatgcgata ttcaaagctc cgtgatctgc atggataagg cgcttgcata taccgttgtg    420
aaaaatgcgg gtatcactgt gcctgggttc cggatccttc aggaggggga tcgcctggaa    480
acggaggatt tcgtatatcc cgttttttgta aagcctgccc gttccggctc atcctttggc    540
gtaaacaagg tatgcaaggc agaagaactg caggcagcaa tcgaagaagc aagaaaatat    600
gacagcaaga ttttgattga agaggccgtt accgggagtg aggtaggctg cgccatactg    660
ggaaacggaa atgatctcat ggctggcgag gtggatcaga ttgagctgag acacggcttt    720
tttaagattc atcaggaagc acagccggag aagggatctg aaaatgcagt catccgagtt    780
ccagccgcct taccggatga ggtaagagaa cagattcagg aaacggcaat gaagatttac    840
cggatacttg gctgcagagg attggcccgc attgacctgt ttttgcggga ggacggttgc    900
attgtgctga atgaagtgaa taccatgcca ggttttactt cctacagccg ctatccccgc    960
atgatgacag cagccggttt tacgctttct gaaatactgg atcgcttgat tgaactttca   1020
cttaggaggt aa                                                       1032
```

```
        <210>  39
        <211>  609
        <212>  DNA
        <213>  Enterococcus faecium


        <400>  39
atgaaaaaga actttgcctt tttagatgaa atgattcccg ggatccgatg ggatgccaaa     60
tatgccacct gggacaattt caccgggaaa ccggtagacg gatacatggt aaaccgtgtt    120
atgggaacga aggagctggg agttgctttg cgtaaggctc agaagatggc ggagaagcta    180
ggatatggtt tgctcttatg ggacggctat cgcccccagt gcgcagtgaa ttgttttctg    240
aattgggctt cccaaccgga agacaatctg acgaaaaagc gttactatcc aaatatcaaa    300
aggaatgaga tggttgcgaa ggggtatgtg gcctcacaat ccagccacag ccgtggaagt    360
acggttgacc ttacaatttt tcatttgaat agcggtatgc ttgttcctat gggtggagat    420
tttgacttta tggatgaacg gtcacaccat gccgcaagcg gtctgagcga agaagaatca    480
aaaaaccggc agtgcttgcg ttatatcatg gagagtagcg gatttgaagc ctatcgttat    540
gaatggtggc attacgtctt ggcggacgag ccatacccgg atacatattt tgatttttgc    600
attgcctag                                                           609
```